

Patent Claims

1. Stable microbicidal composition which comprises
  - a) at least one bactericidal N-formal,
  - 5 b) at least one fungicide and
  - c) at least one stabilizer.
2. Composition according to Claim 1, characterized in that the bactericidal N-formal is a condensation product of formaldehyde and amines, preferably  
10 alkanolamines.
3. Composition according to Claim 1, characterized in that the bactericidal N-formal is chosen from 3,3'-methylenebis(5-methyloxazolidine) and 2,2',2''-(hexahydro-1,3,5-triazine-1,3,5-triyl)tri-  
15 ethanol.
4. Composition according to Claim 1, characterized in that the N-formal is present in a concentration of from 1 to 99% by weight, preferably from 10 to 95% by weight, more preferably 20 to 90% by weight, in  
20 particular 40 to 90% by weight.
5. Composition according to Claim 1, characterized in that the fungicide is an isothiazolone derivative.
6. Composition according to Claim 1, characterized in that the fungicide is chosen from 2-octyl-  
25 2H-isothiazolin-3-one, benzisothiazolone, 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one.
7. Composition according to Claim 1, characterized in that the fungicide is present in a concentration of  
30 from 0.1 to 99% by weight, preferably 2 to 40% by weight, in particular 5 to 10% by weight.
8. Composition according to Claim 1, characterized in that the stabilizer also has microbicidal action.
9. Composition according to Claim 1, characterized  
35 in that the stabilizer is chosen from 2-mercaptopyridine N-oxide, metal or ammonium salts (in particular the sodium and zinc salt) of 2-mercaptopyridine N-oxide, metal salt complexes of 2-mercaptopyridine N-oxide, 2,2'-dithiobis(pyridine

N-oxide), 2-mercaptobenzothiazole, 2-thiocyanomethylthiobenzothiazole, NaBrO<sub>3</sub> and mixtures thereof.

10. Composition according to Claim 1, characterized in that the stabilizer is present in a concentration of  
5 from 0.1 to 40% by weight, preferably 2 to 20% by weight, in particular 5 to 10% by weight.

11. Composition according to Claim 1, characterized in that it further comprises solvents and/or solubility promoters.

10 12. Composition according to Claim 11, characterized in that the solvent comprises alcohol, ether, glycol, glycol monoether, glycol diether, polyol, polyol monoether, completely or incompletely etherified polyol and/or mixtures thereof.

15 13. Composition according to Claim 11, characterized in that the solvent is chosen from phenoxyethanol, phenoxypropanol, 1,2-propylene glycol, 1-methoxy-2-propanol, diethylene glycol butyl ether and dipropylene glycol.

20 14. Composition according to Claim 1, characterized in that it comprises less than 50% by weight, preferably less than 35% by weight and in particular less than 25% by weight of solvent.

25 15. Composition according to Claim 1, characterized in that it additionally comprises one or more complexing agents.

30 16. Composition according to Claim 15, characterized in that the complexing agent is chosen from phosphates and polyphosphates, ethylenediaminetetraacetic acid, nitriloacetic acid, N,N-bis(2-hydroxyethyl)glycine, diethylenetriaminepentaacetic acid, hydroxyethanediphosphonic acid, gluconic acid, hydroxyethylethylenediaminetriacetic acid, polyoxycarboxylic acid, tris(aminomethyl)phosphonic acid, diethylene-  
35 triaminepentamethylenephosphonic acid, ethylenediaminetetramethylenephosphonic acid, ethylenediaminedisuccinic acid, ethylenediaminediglutaric acid, iminodisuccinic acid, polyaspartic acid and methylglycinediacetic acid and salts of said acids.

17. Composition according to Claim 1, characterized in that it additionally comprises one or more corrosion-protective agents.

18. Composition according to Claim 17, characterized in that the corrosion-protective agent is chosen from phosphonobutanetricarboxylic acid and its salts, derivatives of triazole, e.g. benzotriazole and methylbenzotriazole, 2,2'-[[[(methyl-1H-benzotriazol-1-yl)methyl]imino]bisethanol, N,N-bis(2-ethylhexyl)-4-methyl-1H-benzotriazole-1-methylamine and carboxylic acid derivatives, e.g. 5(or 6)-carboxy-4-hexylcyclohex-2-en-1-octanoic acid.

19. Composition according to Claim 1, characterized in that it comprises further microbicidal active ingredients, in particular O-formals, additives and/or auxiliaries.

20. Composition according to Claim 1, characterized in that it is in liquid, liquid-viscous or paste form.

21. Composition according to Claim 1, characterized in that it is in the form of a concentrate.

22. Composition according to Claim 1, characterized in that it is in the form of a ready-to-use solution.

23. A method for achieving a microbicidal effect in industrial products, in particular crop-protection compositions, seed treatment compositions, industrial preservatives, in particular pack preservatives, cooling lubricant additives, fuel additives, disinfectants, in particular low-foam disinfectants, compositions for controlling cut wounds, parasites and plants, compositions for treating plant cut wounds, film preservatives for outside and, in particular, inside, disinfectants in areas where increased fungal attack is to be expected, and wood preservatives; comprising applying to an article or surface an effective amount of a composition according to Claim 1.

24. Method according to Claim 23, characterized in that the composition is used in concentrations greater than 0.01% by weight, preferably greater than 0.05% by

weight and in particular greater than 0.10% by weight, based on the weight of the industrial product.

25. Method according to Claim 23, characterized in that the components of the composition are incorporated  
5 separately from one another, in particular temporally separately from one another, into the industrial products.

26. Method according to Claim 23, characterized in that the components of the composition are incorporated  
10 with the introduction of heat.

27. Process for the preparation of a composition according to Claim 1, characterized in that the components of the composition are added to one another with the introduction of heat.

15 28. Industrial product which comprises a composition according to Claim 1.